

JUNCTOR REASSIGNMENT PROCEDURES

NO. 2A AND NO. 2C ELECTRONIC SWITCHING SYSTEMS

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NOTICE

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1. GENERAL

1.01 This section gives the procedures for making junctor reassignment changes using the maintenance teletypewriter (TTY) for the No. 2A and No. 2C Electronic Switching Systems (ESS). A junctor reassignment is required during office growth when new networks are added.

1.02 All network junctor terminals in No. 2A and No. 2C ESS are cabled to a peripheral frame called Combined Distributing Frame (CDF). The two top shelves of the CDF (shelves L and M) provide the space for mounting two groups of 16 junctor grouping assemblies (Fig. 1).

1.03 A junctor may be either a wire junctor or a circuit junctor, depending on the type of talking path it completes. Trunk-to-trunk, trunk-to-line, and line-to-trunk connections require wire junctors, while line-to-line connections must have a junctor circuit inserted in the junctor path to provide talking battery and supervision. Thus, line-to-line connections require double connections on the CDF in order to incorporate the junctor circuits.

1.04 Junctor terminations of the line trunk networks (LTNs) as well as junctor circuits, are cabled in subgroups of eight to the CDF. Each pair of a subgroup originates from a different grid

of a network. This, coupled with the network wiring scheme, provides each line or trunk with two possible paths to each junctor. Each subgroup is terminated in either a plug or jack on the CDF (Fig. 1).

1.05 A 12-foot section (one jackfield module) of CDF completely equipped with junctor grouping plugs, jacks, and terminal strips has the capacity for terminating four LTNs. That is, 2048 junctors (tip and ring pairs) or 1024 junctor circuits or combinations of junctors and junctor circuits.

1.06 The junctor grouping area of the CDF is divided into four sectors. Each sector is further divided into two shelves for a total of eight shelves. Each shelf contains four groups of junctor grouping assemblies for a total of 32 groups numbered 00 through 31. Each plug is equipped with a 20-foot long cord that allows any network to be interconnected to any other network. An extension cord is available for longer connections between modules. Wire junctor subgroups are formed by connecting plug-ended subgroups of one network into the jack-ended subgroup of itself or another network (Fig. 2). Circuit junctors subgroups are formed by the following:

- (a) connecting a plug-ended subgroup of one network into the jack-end of a circuit subgroup (Fig. 2),
- (b) connecting the plug-end of the same circuit junctor subgroup into a jack-ended subgroup of the second network (Fig. 2).

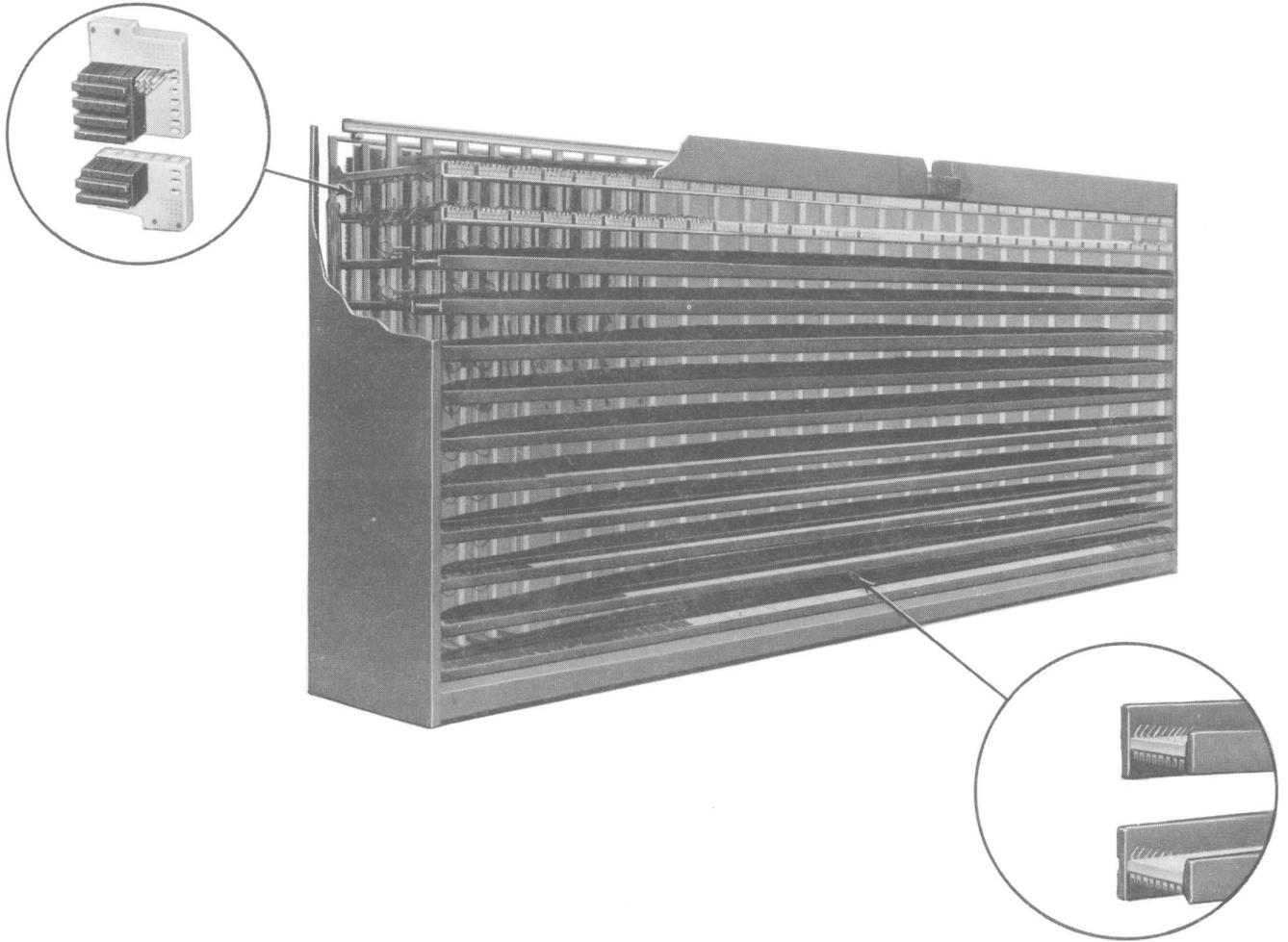


Fig. 1—Combined Distributing Frame

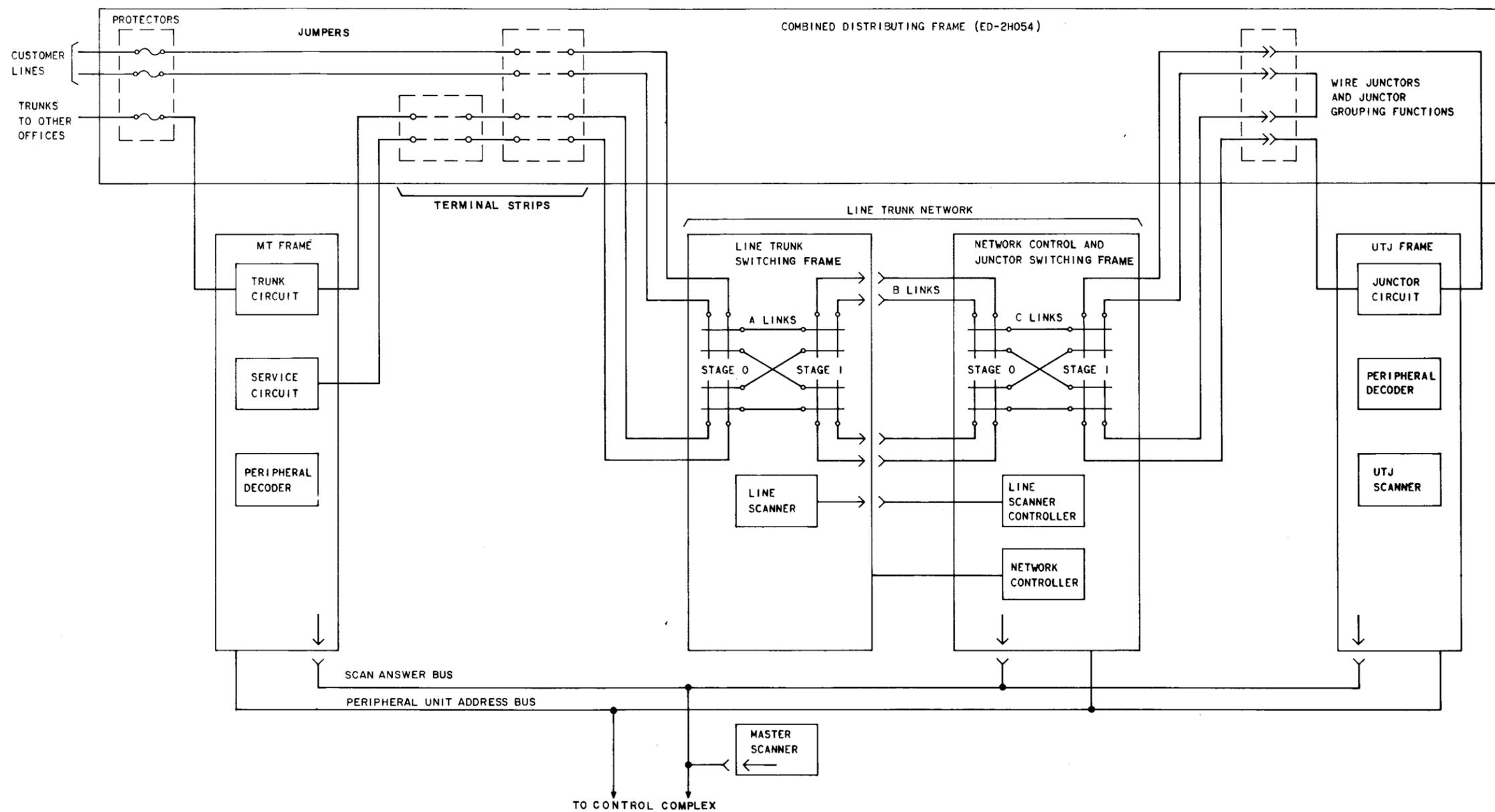


Fig. 2—No. 2A ESS Network

NETWORK JUNCTOR SUBGROUP ASSIGNMENT

1.07 A standard pattern has been adopted for the appearance of the network junctor subgroups on the CDF, as shown in Table A. The

plug and jack arrangement is then configured using the junctor assignment computer program (JAP-2), according to the specific requirements of the particular ESS office.

TABLE A
JUNCTOR SUBGROUP TERMINATIONS ON CDF

JGF SHELF	PLUG TO JACK SLIP	SUBGROUP	PLUG ENDED		JACK ENDED		
			SWITCH	LEVELS	SUBGROUP	SWITCH	LEVELS
0	1	0-3	0	0-3	12-15	1	4-7
1	1	16-19	2	0-3	28-31	3	4-7
2	5	8-11	1	0-3	4-7	0	4-7
3	5	24-27	3	0-3	20-23	2	4-7
4	1	32-35	4	0-3	44-47	5	4-7
5	1	48-51	6	0-3	60-63	7	4-7
6	5	40-43	5	0-3	36-39	4	4-7
7	5	56-59	7	0-3	52-55	6	4-7

1.08 Interconnections between networks should be done, if possible, within the same shelf. Plugs corresponding to a given switch and level should be connected to jacks of another fixed switch and level. Subgroups corresponding to levels 0 to 3 on each switch are terminated on plugs on the CDF. The subgroups corresponding to levels 4 to 7 on each switch terminate on jacks. In the event that it is necessary to interconnect plugs and jacks on different shelves, the interconnections will be confined to within the following pairs of shelves: Shelves 0 and 1; 2 and 3; 4 and 5; 6 and 7. These pairs of shelves are referred to as sectors 0 through 3 for each jackfield module (Fig. 3).

1.09 For minimal office blocking, slip patterns are provided in the cabling between the

LTNs and the terminal strips on the junctor grouping section. Two different slips will be wired into the network wiring on the CDF. A slip of one will be wired on sectors 0 and 2 (shelves 0, 1, 4 and 5) (Fig. 4). A slip of five will be wired on sectors 1 and 3 (shelves 2, 3, 6, and 7).

1.10 Half the wiring from the networks to the CDF terminate on terminal strips dedicated to plugs and the other half terminate on terminal strips dedicated to jacks. The slip is incorporated only in the wiring between the networks and the terminal strips dedicated to plugs (see Fig. 4.) All patch cords (originating either on a network vertical or circuit junctor vertical) are wired with zero slip.

2. JUNCTOR ASSIGNMENT PROCESSING

ASSIGNMENT PROGRAM INPUT

2.01 Junctor assignments are processed for the operating companies by Western Electric Company. The processing center utilizes JAP-2 for junctor assignment. This program will take into consideration the physical restrictions, as well as the many rules governing the development of a junctor pattern.

2.02 The input to the JAP-2 will be completed by the Western Electric Company line engineer using the data supplied to him by the operating company (Fig. 5). A description of each of the forms filled out by the line engineer and the operating company is as follows.

Note: Figs. 6-10 are for reference only. The latest version of the forms may be found in TG-2H.

- (a) **Form ESS-2200:** This form (Fig. 6) is used to list the location of circuit junctors on the universal trunk and junctors frame (UTJF)
- (b) **Form ESS-2203:** This form (Fig. 7) is used to specify the type of appearance terminated on a particular junctor grouping vertical.
- (c) **Form ESS-2206:** This form (Fig. 8) is used to list the junctor group sizes and is divided into two sections. The first half is used to enter circuit junctor group sizes and the second half is used to enter wire junctor group sizes. Only equipped junctor groups are to be entered.
- (d) **Form ESS-2503A:** This form (Fig. 9) is used to list the various enables and assignments for the universal trunk and junctor frame.
- (e) **Form ESS-2507:** This form (Fig. 10) is used to list any supporting information that does not result in data inserted into translation store.

ASSIGNMENT PROGRAM OUTPUT

2.03 The output of JAP-2 is in the form of a computer printout. A description and usage of the output is as follows.

- (a) **Section A:** The Input Data Printout lists the input that was determined to be error free by the crossfield value range-checks routine (Fig. 11).
- (b) **Section B:** This section contains the input to the ODA junctor grouping translator program which gives a card image listing with column numbers of the translator program input. This section is printed as a backup source listing (Fig. 12).
- (c) **Section C:** This section contains the junctor group size definitions. The listings of the wire junctor and circuit junctor group sizes requested and assigned are given (Fig. 13).
- (d) **Section D:** This section contains the junctor grouping plug-jack interconnection pattern for Telephone Company reference. This section is to be used only by the TELCO, not the installer or during any phase of installation (Fig. 14). To use this section as a reference, read horizontally across the top for the junctor grouping vertical and read vertically at the left (not the SECTOR or SHELF) for the level associated with a particular plug. This plug is connected to the particular jack as listed under the JACK column.
- (e) **Section E:** This section contains the junctor grouping plug-jack interconnection pattern for installers use. It is to be used only by the installer for plug-jack interconnection (Fig. 15).
- (f) **Section F:** This section contains the Junctor Circuit Cable Running List. This is a list of the cables wired from the junctor circuits on the UTJF to the junctor grouping vertical locations (Fig. 16). For reference, see T*2H102-11 Fig. 1.
- (g) **Section G:** This section contains the Switchboard Cable Connecting Table. This listing gives the cables terminal terminations from the UTJF junctor circuits to the junctor grouping verticals (Fig. 17). For reference, see CCED-2H022-10, Sheet 5.
- (h) **Section H:** This section contains the Plug-Jack Interconnection Extension Cord Summary. This listing gives the number of

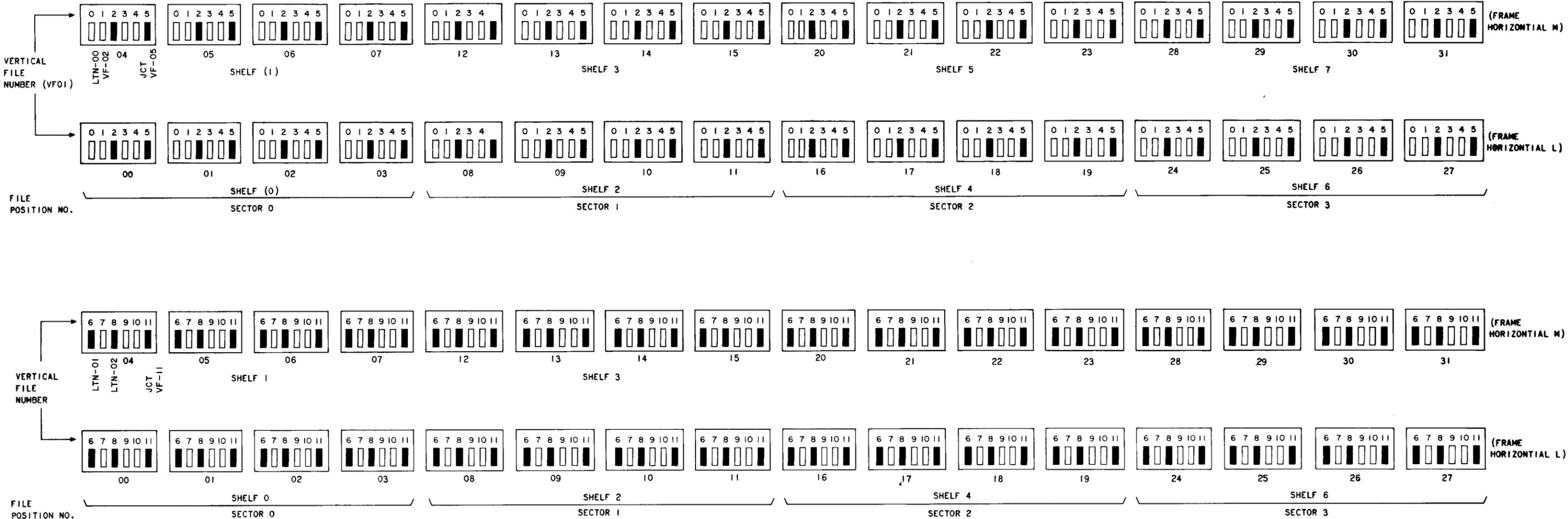
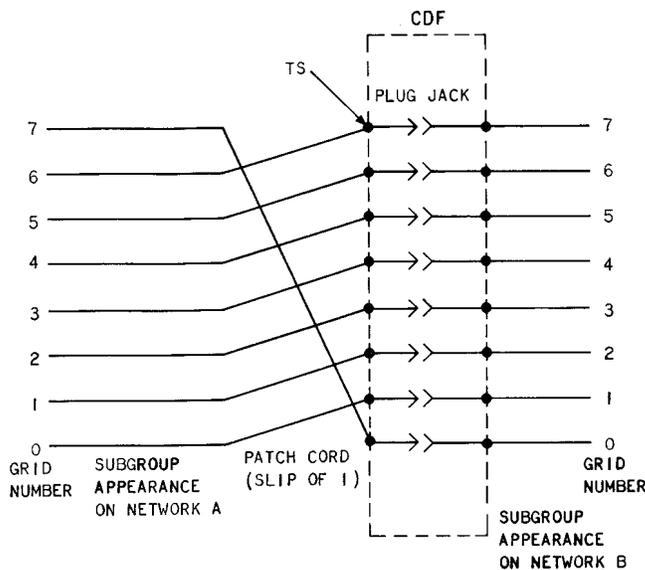


Fig. 3—CDF Junctor Grouping Jackfield Modules



NETWORK A SEES A SLIP OF ONE.
(PLUG TO JACK SLIP)

NETWORK B SEES A SLIP OF SEVEN (MINUS ONE)
(JACK TO PLUG SLIP)

Fig. 4—Reverse Property of Slip

extension cables required for a particular pattern, the number of extension cords freed after the reassignment, and the number of additional extension cords to be ordered for the reassignment. (Fig. 18).

- (i) **Section I:** This section contains the JCTR Capacity Evaluation and Pattern Analysis. This listing gives the junctor group sizes prior to reassignment and as each sector is removed from and restored to service (Fig. 19).

JUNCTOR REASSIGNMENT PROGRAM (JASINT)

2.04 This generic program will allow the craftsman to **remove**, **test**, and **restore** a sector at a time starting with sector 0 and continuing through sector 3. All M JP type input and output messages are under the control of the JASINT program.

Caution: The junctor reassignment must be performed on the sectors in sequence starting with sector 0 and proceeding through sector 3. Should it be necessary to revert to the original assignments (see Part 5) the

reverse procedure must be followed. This restriction is inherent in the manner that the JASINT program remove and restore messages update the recent change area of call store.

2.05 Use of priority messages: The junctor reassignment procedures are setup to reassign each sector in order beginning with sector 0 and proceeding through sector 3. Should it become necessary to repeat a message, the priority message is required. For example: if an initialization is encountered, use the message

MP JP:RMV:SCT x!

(see Part 6) or if it is decided to retest a sector after a successful completion use the message

MP JP:TST:SCT x!

(see Part 6).

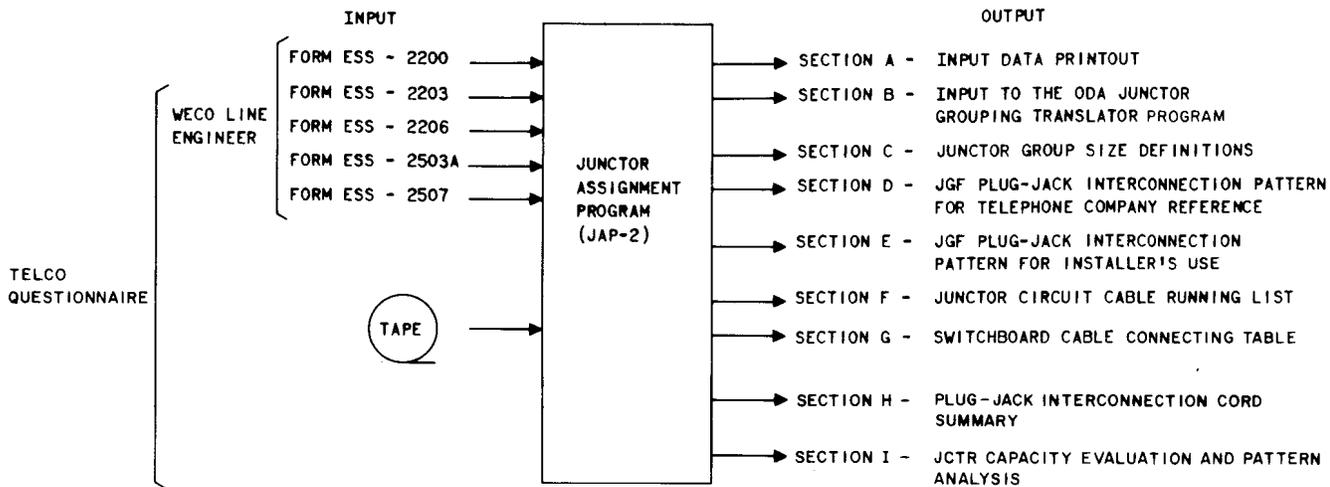
Caution 1: As with all priority messages, the MP JP messages act as an overwrite to be performed to establish the reassignment at a known point. The priority message will therefore allow a sector to be removed, tested, and restored out of sequence. In no cases should this be allowed to occur. The sectors must be updated in sequence starting with sector 0 and ending with sector 3. The only exception may occur if the progression of the junctor reassignment is in the backward direction (See Part 7). The sectors must be updated in a reverse sequence starting with the current sector and ending with section 0.

Caution 2: In the event the wrong sector number was specified on a priority (MP JP) message, it is imperative that the error be corrected immediately (see Part 8).

2.06 During the course of the junctor reassignment, three "soak" intervals are required as follows:

- After the new translations are loaded (see 4.02, step 4).

GROWTH AND NEW OFFICES



BALANCING AN OFFICE

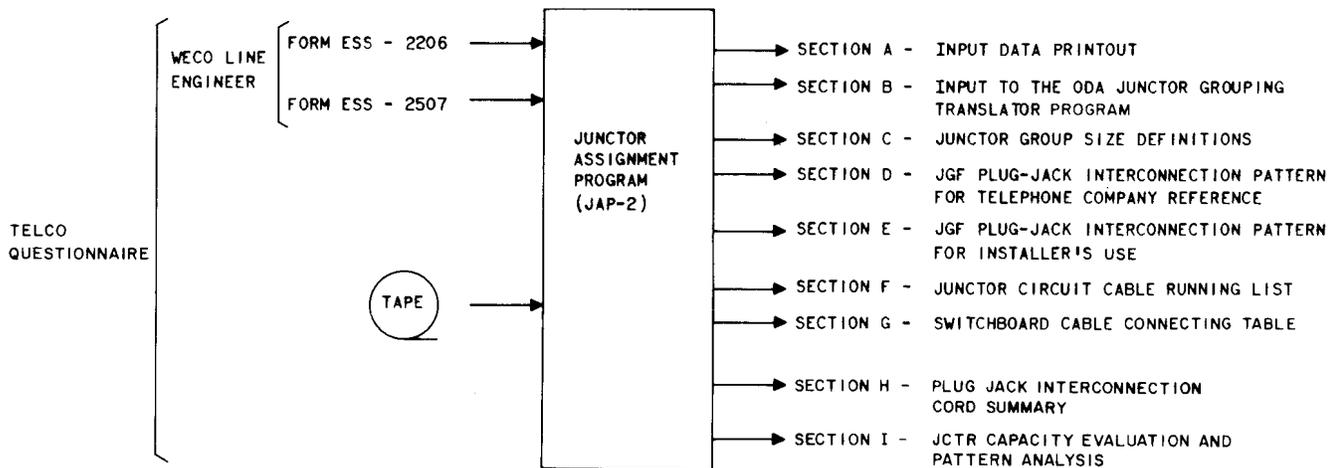


Fig. 5—Processing of Junctor Assignments

- After the sectors on the first day of junctor reassignment have been reconfigured (see 4.02, step 20).

- After removal of all reassignment flags (see 4.02, steps 22, 23, and 24).

2.07 The junctor reassignment should be performed during the low traffic period of the day. This precaution is necessary since the junctors are reconfigured on a sector basis. This means that at least 25 percent of the junctors are not available

to call processing while the junctors are being reconfigured.

2.08 Since four sectors are involved, the reassignment can be completed in anywhere from one to four days. Some of the factors that go into deciding how many days should be spent doing the junctor growth are as follows:

- Is the time interval during the low traffic period long enough to reconfigure more than one sector each day?

DATE

PERIPHERAL UNIT ASSIGNMENT TABLE
NO. 2 ESS

ESS 2503-2(07) TG-2H

ESS UNIT _____

BASE & CONTROL _____

UNIVERSAL TRUNK & JUNCTOR FRAME ENABLES

FORM CODE 5A
14 15

UTJF NUMBER	TRUNK SCANNER NUMBER	PD ENABLE		REMARKS	REVISE				
		HOME	MATE						
		CPD FRAME NEST	CPD FRAME NEST						
20	21	22	23	24	25	26	27		
00									
01									
02									
03									
04									
05									
06									
07									
08									
09									
10									

Fig. 9—Peripheral Unit Assignment Table

office to determine an appropriate junctor growth sequence.

3. METHOD OF DIAGNOSING CIRCUIT JUNCTORS USING NEW TRANSLATIONS

3.01 A circuit junctor is identified to the diagnostic programs by junctor network number (JNN) and the network associated with the other end of the junctor (see office records). The JNN consists of the network, switch, level, and grid of the junctor. A scan point number (SPN) is also associated with each circuit junctor jack and junctor plug. Circuits are diagnosed specifying the two networks associated with the circuit junctor and the switch, level, and grid of the **jack**. A subgroup may be diagnosed by omitting the grid.

reassignment, as well as after, may be diagnosed in the normal manner.

3.03 **New JNN, Same SPN**—An existing circuit (existing SPN) which will have one or both new JNNs **after reassignment must be diagnosed using the new** assignment. The diagnostic printout will contain the **old** assignment **before** it is reassigned and will contain its **new** assignment **after** it is reassigned (see example).

Example: If the old and new assignment of a circuit junctor subgroup were as follows:

EXISTING CIRCUITS

3.02 **Same JNN, Same SPN**—An existing circuit (existing SPN) which has **identical** JNNs (one for jack, one for plug) before its

	NETWORK (MM)	NETWORK (NN)	SWITCH (S)	LEVEL (L)	SPN OF SUBGROUP
OLD	00	00	5	4	2010
NEW	02	02	4	4	2010

To diagnose the subgroup, type in

M JC:DGN:mmnn sl!

mmnn = 0202

sl = 44

Before the subgroup is reassigned, the printout will be for the old subgroup (mmnn sl = 0000 54).

After the subgroup is reassigned, the printout will be for the new subgroup (mmnn sl = 0202 44).

ESS 2507 (05) TG-2H

GENERAL RECORD INFORMATION
NO. 2 ESS

DATE 1-2-34-5

BASE & CONTROL 6 7 8 9 10 11
FORM CODE 57
14 15

ESS UNIT _____

ITEM	INFORMATION	FUNCTION																							
23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	79	80	
01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	TEL CO NUMBER
02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	TEL CO NAME
03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	OFFICE LOC-AREA
04	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	OFFICE LOC-BUILDING
05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	OFFICE LOC-CITY
06	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	OFFICE LOC-STATE
07	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	OFFICE LOC-EXCHANGE
08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
09	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ESS CONTROL GROUP
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	TEL CO ORDER NO.
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	WECO ORDER NO.
13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	TEL CO EQPT ENGR-NAME
14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	TEL CO EQPT ENGR-DEPT
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	TEL CO EQPT ENGR-PHONE NUMBER
16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	MAIL ADDR FOR PGM-NAME
17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	MAIL ADDR FOR PGM-STREET
18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	MAIL ADDR FOR PGM-CITY
19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	MAIL ADDR FOR PGM-STATE
20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	MAIL ADDR FOR PGM-ZIP CODE
21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	RUN NUMBER
22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	JCTR PATTERN ISS CURRENTLY IN OFC
23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	INIT JCTR ASGMT (I) OR REASGN (R)

Fig. 10—General Record Information

ESS TOWN STATE TELCO TELCO ORDER NO BUILDING TELCO BASE DATE RUN W. E. ORDER ESS PAGE
 NO 2A 001

JCTR ASGNS GEN SYS ISSUE 04 ** INPUT DATA PRINTOUT**

*** SECTION A ***

FORM ESS 2200 UTJF LOCATIONS OF CIRCUIT JUNCTORS

EQPT UTJF NO	LOC OF MOD NO	JUNCTOR FIRST PLT	BLOCKS IN BAY 0 LAST MEMBER PLT	ADDN	SEQUENCE NUMBER
00H	02	01	06		001
01H	02	01	06		002
02H	03	01	06		003
03H	03	01	06		004
04H	04	01	06		005
04M	04	01	06		006
00H	02	10	12	*	007
01H	02	10	11	*	008
02H	03	10	12	*	009
03H	03	10	12	*	010
04H	04	10	11	*	011
04M	04	10	11	*	012

* INDICATES THAT THE BLOCK OF JUNCTORS WAS ADDED ON THIS ORDER
 NOTE - CABLING OF ADDED CIRCUIT JUNCTORS MUST BE DONE USING THE ASSIGNMENTS LISTED IN SECTION F

FORM ESS 2203 JUNCTOR GROUPING FUNCTION VERTICAL FILE DEFINITIONS

2A MODULE	JGF VERT FILE NO.	00	01	02	03	04	05
'02'	LTN NUMBER			00			
	VERT FILE USE OTHER THAN FOR LTN	U	U		U	U	X
	ASSIGNMENT ADDED ON THIS ORDER						
2A MODULE	JGF VERT FILE NO.	06	07	08	09	10	11
'03'	LTN NUMBER	01	02	03			
	VERT FILE USE OTHER THAN FOR LTN				U	U	X
	ASSIGNMENT ADDED ON THIS ORDER						
2A MODULE	JGF VERT FILE NO.	12	13	14	15	16	17
'04'	LTN NUMBER	04	05				
	VERT FILE USE OTHER THAN FOR LTN				U	U	X
	ASSIGNMENT ADDED ON THIS ORDER		*				

X INDICATES CIRCUIT JUNCTOR VERTICAL FILE
 U INDICATES THAT THIS VERTICAL FILE IS UNASSIGNED
 * INDICATED NEW VERTICAL FILE ASSIGNMENT PER THIS ORDER

WESTERN ELECTRIC CO., INC. PRINTED IN U.S.A.

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Fig. 11—UTJF Locations of Circuit Junctors (Sheet 2 of 2)

ESS TOWN STATE TELCO TELCO ORDER NO BUILDING TELCO BASE DATE RUN W.E. ORDER ESS PAGE
 NO 2A 001
 JCTR ASSIGN PGM ISSUE 04 ** INPUT TO THE ODATDTG JUNCTOR GROUPING TRANSLATOR ** *** SECTION B ***

CARD COLUMNS	1	2	3	4	5	6	7	8
	03184	TESTE0	99	003500231			001	
	03184	TESTE0	99	000700115			002	
	03184	TESTE0	99	005400401			003	
	03184	TESTE0	99	007700611			004	
	03184	TESTE0	99	004500535			005	
	03184	TESTE0	99	006400705			006	
	03184	TESTE0	99	0014000010533004M01000201			007	
	03184	TESTE0	99	0024003050533804M25240209			008	
	03184	TESTE0	99	011700031			009	
	03184	TESTE0	99	013300273			010	
	03184	TESTE0	99	014300577			011	
	03184	TESTE0	99	016200747			012	
	03184	TESTE0	99	015000443			013	
	03184	TESTE0	99	016700735			014	
	03184	TESTE0	99	017100673			015	
	03184	TESTE0	99	0120003470401003H08090105			016	
	03184	TESTE0	99	0104001050100800H17160008			017	
	03184	TESTE0	99	0174006010200001H41400020			018	
	03184	TESTE0	99	013501231			019	
	03184	TESTE0	99	010701115			020	
	03184	TESTE0	99	012401305			021	
	03184	TESTE0	99	015401401			022	
	03184	TESTE0	99	017701611			023	
	03184	TESTE0	99	014501535			024	
	03184	TESTE0	99	0114010010302002H01000100			025	
	03184	TESTE0	99	0164017050534804M57560225			026	
	03184	TESTE0	99	020100177			027	
	03184	TESTE0	99	022300377			028	
	03184	TESTE0	99	020700135			029	
	03184	TESTE0	99	022500335			030	
	03184	TESTE0	99	025600431			031	
	03184	TESTE0	99	026100757			032	
	03184	TESTE0	99	027700631			033	
	03184	TESTE0	99	025300473			034	
	03184	TESTE0	99	0235002110102000H11100004			035	
	03184	TESTE0	99	0211000530201801H18190009			036	
	03184	TESTE0	99	0345005150305802H51500125			037	
	03184	TESTE0	99	021701031			038	
	03184	TESTE0	99	020401105			039	
	03184	TESTE0	99	022601125			040	
	03184	TESTE0	99	023301273			041	
	03184	TESTE0	99	024301577			042	
	03184	TESTE0	99	027201463			043	
	03184	TESTE0	99	026701735			044	
	03184	TESTE0	99	0220013470100000H08090000			045	

CARD COLUMNS 1234567890123456789012345678901234567890123456789012345678901234567890
 1 2 3 4 5 6 7 8

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Fig. 12—Input to the ODA Junctor Grouping Translator

ESS TOWN STATE TELCO TELCO ORDER NO BUILDING TELCO BASE DATE RUN W.E.ORDER ESS PAGE
 NO 2A 001

JCTR ASSIGN PGM ISSUE 04 ** JUNCTOR GROUP SIZE DEFINITIONS **

*** SECTION C ***

CIRCUIT GROUP SIZES REQUESTED

CIRCUIT GROUP SIZES ASSIGNED

LTN	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	LTN	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14
00	02	03	03	03	02	03	..	..	..	..	..	..	..	..	..	00	02	03	03	03	02	03	..	..	..	..	..	..	..
01	..	02	03	03	02	03	..	..	..	..	..	..	..	..	..	01	..	02	03	03	02	03	..	..	..	..	..	..	..
02	02	03	02	03	..	..	..	..	..	..	..	..	..	02	..	..	02	03	02	03	..	..	..	..	..	..	..
03	02	02	02	..	..	..	..	..	..	..	..	..	03	..	..	..	02	02	02	..	..	..	..	..	..	..
04	02	02	..	..	..	..	..	..	..	..	..	04	..	..	..	..	02	02	..	..	..	..	..	..	..
05	02	..	..	..	..	..	..	..	..	..	05	..	..	..	..	..	02	..	..	..	..	..	..	..
06	06	..	..	..	..	..	..	..	..	..	..	..	..	..
07	07	..	..	..	..	..	..	..	..	..	..	..	..	..
08	08	..	..	..	..	..	..	..	..	..	..	..	..	..
09	09	..	..	..	..	..	..	..	..	..	..	..	..	..
10	10	..	..	..	..	..	..	..	..	..	..	..	..	..
11	11	..	..	..	..	..	..	..	..	..	..	..	..	..
12	12	..	..	..	..	..	..	..	..	..	..	..	..	..
13	13	..	..	..	..	..	..	..	..	..	..	..	..	..
14	14	..	..	..	..	..	..	..	..	..	..	..	..	..

WIRE GROUP SIZES REQUESTED

WIRE GROUP SIZES ASSIGNED

LTN	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	LTN	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14
00	06	07	07	07	07	04	..	..	..	..	..	..	..	..	..	00	06	07	08	07	07	05	..	..	..	..	..	..	..
01	..	06	07	07	07	04	..	..	..	..	..	..	..	..	..	01	..	06	07	07	08	05	..	..	..	..	..	..	..
02	06	07	07	04	..	..	..	..	..	..	..	..	..	02	..	..	06	08	07	04	..	..	..	..	..	..	..
03	06	07	04	03	06	08	05		
04	06	04	04	06	08		
05	06	05	10		
06	06		
07	07		
08	08		
09	09		
10	10		
11	11		
12	12		
13	13		
14	14		

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Fig. 13—Juncture Group Size Definitions

ESS TOWN STATE TELCO TELCO ORDER NO BUILDING TELCO BASE DATE RUN W.E.ORDER ESS PAGE
 NO 2A 001

JCTR ASSIGN PGM ISSUE 04 ** JGF PLUG-JACK INTERCONNECTION PATTERN FOR TELEPHONE COMPANY REFERENCE ** *** SECTION D ***

PLUGS FROM THE J.G. FUNCTION LOCATED ON THE CDF ARE CONNECTED TO THE JACKS ON VERTICAL FILES 00 THRU 05 IN MODULE 02 AS FOLLOWS:

SECTOR	PLUG FP	VF MOD			VF MOD			VF MOD			VF MOD			VF MOD					
		00	02		01	02		02	02		03	02		04	02		05	02	
		--- JACK ---			--- JACK ---			--- JACK ---			--- JACK ---			--- JACK ---					
		FP	VF	MOD	FP	VF	MOD	FP	VF	MOD	FP	VF	MOD	FP	VF	MOD	FP	VF	MOD
	31	NE	.....	NE	.....	NE	.....	31	06	03	NE	.....	NE	.....	NE	.....	NE	.....	NE
	30	NE	.....	NE	.....	NE	.....	28	05	02	NE	.....	NE	.....	NE	.....	NE	.....	NE
	29	NE	.....	NE	.....	NE	.....	29	12	04	NE	.....	NE	.....	NE	.....	25	13	04
	28	NE	.....	NE	.....	NE	.....	28	02	02	NE	.....	NE	.....	NE	.....	30	12	04
3	27	NE	.....	NE	.....	NE	.....	25	02	02	NE	.....	NE	.....	NE	.....	NE	.....	NE
	26	NE	.....	NE	.....	NE	.....	26	08	03	NE	.....	NE	.....	NE	.....	NE	.....	NE
	25	NE	.....	NE	.....	NE	.....	25	11	03	NE	.....	NE	.....	NE	.....	26	02	02
	24	NE	.....	NE	.....	NE	.....	24	13	04	NE	.....	NE	.....	NE	.....	24	07	03
	23	NE	.....	NE	.....	NE	.....	23	07	03	NE	.....	NE	.....	NE	.....	NE	.....	NE
	22	NE	.....	NE	.....	NE	.....	21	05	02	NE	.....	NE	.....	NE	.....	NE	.....	NE
	21	NE	.....	NE	.....	NE	.....	23	02	02	NE	.....	NE	.....	NE	.....	22	13	04
	20	NE	.....	NE	.....	NE	.....	20	05	02	NE	.....	NE	.....	NE	.....	20	06	03
2	19	NE	.....	NE	.....	NE	.....	18	07	03	NE	.....	NE	.....	NE	.....	NE	.....	NE
	18	NE	.....	NE	.....	NE	.....	18	12	04	NE	.....	NE	.....	NE	.....	NE	.....	NE
	17	NE	.....	NE	.....	NE	.....	17	05	02	NE	.....	NE	.....	NE	.....	17	08	03
	16	NE	.....	NE	.....	NE	.....	16	02	02	NE	.....	NE	.....	NE	.....	18	02	02
	15	NE	.....	NE	.....	NE	.....	13	07	03	NE	.....	NE	.....	NE	.....	NE	.....	NE
	14	NE	.....	NE	.....	NE	.....	14	12	04	NE	.....	NE	.....	NE	.....	NE	.....	NE
	13	NE	.....	NE	.....	NE	.....	12	05	02	NE	.....	NE	.....	NE	.....	13	13	04
	12	NE	.....	NE	.....	NE	.....	09	17	04	NE	.....	NE	.....	NE	.....	13	08	03
1	11	NE	.....	NE	.....	NE	.....	11	07	03	NE	.....	NE	.....	NE	.....	NE	.....	NE
	10	NE	.....	NE	.....	NE	.....	10	13	04	NE	.....	NE	.....	NE	.....	NE	.....	NE
	09	NE	.....	NE	.....	NE	.....	11	02	02	NE	.....	NE	.....	NE	.....	09	02	02
	08	NE	.....	NE	.....	NE	.....	08	05	02	NE	.....	NE	.....	NE	.....	08	06	03
	07	NE	.....	NE	.....	NE	.....	05	02	02	NE	.....	NE	.....	NE	.....	NE	.....	NE
	06	NE	.....	NE	.....	NE	.....	06	08	03	NE	.....	NE	.....	NE	.....	NE	.....	NE
	05	NE	.....	NE	.....	NE	.....	04	05	02	NE	.....	NE	.....	NE	.....	06	02	02
	04	NE	.....	NE	.....	NE	.....	02	08	03	NE	.....	NE	.....	NE	.....	05	07	03
0	03	NE	.....	NE	.....	NE	.....	03	06	03	NE	.....	NE	.....	NE	.....	NE	.....	NE
	02	NE	.....	NE	.....	NE	.....	02	07	03	NE	.....	NE	.....	NE	.....	01	07	03
	01	NE	.....	NE	.....	NE	.....	01	13	04	NE	.....	NE	.....	NE	.....	05	08	03
	00	NE	NE	NE	01	17	04	NE	NE	NE	04	06	03

NOTE: 'NE.....NE' MEANS THAT THIS PLUG LOCATION IS UNASSIGNED OR NOT EQUIPPED.

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Fig. 14—JGF Plug-Jack Interconnection Pattern for Telephone Company Reference

ESS TOWN STATE TELCO TELCO ORDER NO BUILDING TELCO BASE DATE RUN W.E. ORDER ESS PAGE
 NO 2A 001

JCTR ASSIGN PGM ISSUE 04 ** JGF PLUG-JACK INTERCONNECTION PATTERN FOR INSTALLER'S USE **
 CONNECT PLUGS TO JACKS ON THE JUNCTOR GROUPING FUNCTION LOCATED ON THE CDF AS FOLLOWS:

*** SECTION E ***

| SECTOR 0 |

PLUG			JACK			PLUG			JACK		
FP	VF	MOD	FP	VF	MOD	FP	VF	MOD	FP	VF	MOD
03	02	02	03	06	03	07	02	02	05	02	02
02	02	02	02	12	04	06	02	02	06	08	03
01	02	02	01	13	04	05	02	02	04	05	02
00	02	02	01	17	04	04	02	02	02	08	03
03	05	02	03	05	02	07	05	02	07	05	02
02	05	02	01	07	03	06	05	02	06	05	02
01	05	02	05	08	03	05	05	02	06	02	02
00	05	02	04	06	03	04	05	02	05	07	03
03	06	03	03	07	03	07	06	03	05	06	03
02	06	03	02	13	04	06	06	03	06	12	04
01	06	03	01	08	03	05	06	03	01	05	02
00	06	03	00	11	03	04	06	03	05	11	03
03	07	03	03	08	03	07	07	03	07	02	02
02	07	03	04	13	04	06	07	03	06	07	03
01	07	03	03	02	02	05	07	03	04	11	03
00	07	03	00	07	03	04	07	03	00	05	02
03	08	03	03	12	04	07	08	03	07	06	03
02	08	03	03	13	04	06	08	03	07	08	03
01	08	03	01	02	02	05	08	03	06	11	03
00	08	03	00	08	03	04	08	03	00	17	04
03	11	03	03	11	03	07	11	03	07	11	03
02	11	03	02	11	03	06	11	03	05	13	04
01	11	03	01	11	03	05	11	03	04	02	02
00	11	03	00	06	03	04	11	03	05	12	04
03	12	04	02	07	03	07	12	04	07	07	03
02	12	04	02	02	02	06	12	04	06	06	03
01	12	04	01	06	03	05	12	04	07	12	04
00	12	04	00	12	04	04	12	04	04	17	04
03	13	04	01	12	04	07	13	04	07	13	04
02	13	04	02	06	03	06	13	04	05	05	02
01	13	04	02	05	02	05	13	04	06	13	04
00	13	04	02	17	04	04	13	04	04	12	04
03	17	04	03	17	04	07	17	04	07	17	04
02	17	04	00	13	04	06	17	04	06	17	04
01	17	04	00	02	02	05	17	04	05	17	04
00	17	04	04	07	03	04	17	04	04	08	03

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Fig. 15—JGF Plug-Jack Interconnection Pattern for Installer's Use

ESS TOWN STATE TELCO TELCO ORDER NO BUILDING TELCO BASE DATE RUN W.E.ORDERS ESS PAGE
NO 2A 001

JCTR ASSIGN PGM ISSUE 04 ** SWITCHBOARD CABLE CONNECTING TABLE **

*** SECTION G ***

BINDER SECTION	LEAD COVER	TERMINAL DESIGNATION	FUNCTIONAL DESIGNATION	OPTION & NOTE	BINDER SECTION	LEAD COLOR	TERMINAL DESIGNATION	FUNCTIONAL DESIGNATION	OPTION & NOTE
----------------	------------	----------------------	------------------------	---------------	----------------	------------	----------------------	------------------------	---------------

811A CA FROM UTJ(00H),BAY 0
J2H017A-1(J2H017DA-1 UNIT
UNIT T.S. A AND T.S. B

811A CA FROM UTJ(00H),BAY 2
J2H017A-1(J2H017DA-1 UNIT
UNIT T.S. AND T.S. B

TO JGF LOCATED IN MOD 02

TO JGF LOCATED IN MOD 02

CCED 2H022-10 SHEET 5
J2H022A-1(J2H022AA-1 UNIT)
T-2H086-11 FIG. 1, SH A6,A5

CCED 2H022-10 SHEET 5
J2H022A-1(J2H022AA-1 UNIT)
T-2H086-11 FIG. 1,SH A6,A5

VERT FILE(05),SHELF-1,UTJ PLATE NO. 10

VERT FILE(05),SHELF-1,UTJ PLATE NO. 23

			T.S. A 05
BL	BL1W	1	OT1
BL	BL2W	2	OR1
BL	O1W	3	1T1
BL	O2W	4	1R1
BL	G1W	5	2T1
BL	G2W	6	2R1
BL	BR1W	7	3T1
BL	BR2W	8	3R1

			T.S. A 05
BL	BL1W	9	OT1
BL	BL2W	10	OR1
BL	O1W	11	1T1
BL	O2W	12	1R1
BL	G1W	13	2T1
BL	G2W	14	2R1
BL	BR1W	15	3T1
BL	BR2W	16	3R1

			CONN J 05
BL	S1W	1	OT
BL	S2W	2	OR
BL	BL1R	4	1T
BL	BL2R	5	1R
BL	O1R	7	2T
BL	O2R	8	2R
BL	G1R	10	3T
BL	G2R	11	3R

			CONN J 05
BL	S1W	13	OT
BL	S2W	14	OR
BL	BL1R	16	1T
BL	BL2R	17	1R
BL	O1R	19	2T
BL	O2R	20	2R
BL	G1R	18	3T
BL	G2R	21	3R

811A CA FROM UTJ(00H),BAY 0
J2H017A-1(J2H-17DA-1 UNIT
UNIT T.S. A AND T.S. B

811A CA FROM UTJ(00H),BAY 2
J2H017A-1(J2H017DA-1 UNIT
UNIT T.S. A AND T.S. B

TO JGF LOCATED IN MOD 02

TO JGF LOCATED IN MOD 02

CCED 2H022-10 SHEET 5
J2H022A-1(J2H022AA-1 UNIT)
T-2H086-11 FIG. 1, SH A6,A5

CCED 2H022-10 SHEET 5
J2H022A-1(J2H022AA-1 UNIT)
T-2H086-11 FIG. 1,SH A6,A5

VERT FILE(05),SHELF-3,UTJ PLATE NO. 11

VERT FILE(05),SHELF-3,UTJ PLATE NO. 22

			T.S. A 13
BL	BL1W	1	OT1
BL	BL2W	2	OR1

			T.S. A 13
BL	BL1W	9	OT1
BL	BL2W	10	OR1

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Fig. 17—Switchboard Cable Connecting Table

ESS TOWN STATE TELCO TELCO ORDER NO BUILDING TELCO BASE DATE RUN W.E.ORDER ESS PAGE
 NO 2A 001
 JCTR ASSIGN PGM ISSUE 04 ** PLUG-JACK INTERCONNECTION EXTENSION CORD SUMMARY ** *** SECTION H ***

SECTOR	***** QUANTITY OF 12'(24') EXTENSION CORDS AVAILABLE *****			***** QUANTITY OF 12'(24') EXTENSION CORDS REQUIRED FOR THIS SECTOR *****	***** QUANTITY OF 12'(24') EXTENSION CORDS NEEDED TO BE ORDERED FOR THIS SECTOR *****
	FROM PREVIOUSLY REASSIGNED SECTORS	FROM THIS SECTOR WHEN UNPLUGGED	TOTAL AVAILABLE TO THIS SECTOR		
0	000(000)	004(000)	004(000)	007(000)	003(000)
1	000(000)	004(000)	004(000)	007(000)	003(000)
2	000(000)	001(000)	001(000)	004(000)	003(000)
3	000(000)	001(000)	001(000)	006(000)	005(000)

***** ----->	TOTAL QUANTITY OF 12'(24') EXTENSION CORDS REQUIRED TO SUPPORT THIS JGF PLUG-JACK PATTERN	TOTAL QUANTITY OF 12'(24') EXTENSION CORDS REMAINING FREED AFTER THIS JGF REASSIGNMENT	TOTAL QUANTITY OF 12'(24') EXTENSION CORDS NEEDED TO BE ORDERED FOR THIS JGF REASSIGNMENT	-----> *****
***** ----->	024(000)	000(000)	014(000)	-----> *****

***** -----> ORDER THE JGF EXTENSION CABLES PER ED-2H059-36 FOR GROUPS G-2(24' CABLES) AND G-3(12' CABLES) -----> *****

Fig. 18—Plug-Jack Interconnection Extension Cord Summary

ESS	TOWN	STATE	TELCO	TELCO ORDER NO	BUILDING	TELCO BASE	DATE	RUN W.E.ORDER	ESS NO 2A	PAGE 002
JCTR ASGNS GEN SYS ISSUE 04 ** JCTR. CAPACITY EVALUATION AND PATTERN ANALYSIS **								***	SECTION 1	***

JUNCTOR GROUP SIZES PRIOR TO JUNCTOR REASSIGNMENT

CIRCUIT						WIRE					
LTN 1	00	01	02	03	04	LTN 1	00	01	02	03	04
-----						-----					
00	02	03	03	03	02	00	06	11	11	11	04
01		02	03	03	02	01		06	11	11	04
02			02	03	02	02			06	11	04
03				02	02	03				06	04
04					02	04					18

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Fig. 19—Juncture Capacity Evaluation and Pattern Analysis (Sheet 1 of 5)

ESS TOWN STATE TELCO TELCO ORDER NO BUILDING TELCO BASE DATE RUN W.E.ORDER ESS PAGE
 NO 2A 003
 JCTR ASGNS GEN SYS ISSUE 04 ** JCTR. CAPACITY EVALUATION AND PATTERN ANALYSIS ** *** SECTION I ***

JUNCTOR GROUP SIZES WHEN SECTOR 0 REMOVED FROM SERVICE

CIRCUIT							WIRE						
LTN	00	01	02	03	04	05	LTN	00	01	02	03	04	05
00	01	02	02	03	02	00	00	05	08	09	08	02	00
01		01	02	02	02	00	01		05	09	09	02	00
02			02	02	01	00	02			04	08	03	00
03				02	01	00	03				04	03	00
04					02	00	04					14	00
05						00	05						00

JUNCTOR GROUP SIZES WHEN SECTOR 0 RESTORED TO SERVICE

CIRCUIT							WIRE						
LTN	00	01	02	03	04	05	LTN	00	01	02	03	04	05
00	02	03	03	03	02	01	00	06	09	11	11	04	01
01		02	03	03	02	01	01		06	10	11	05	02
02			02	03	02	01	02			06	09	05	01
03				02	02	01	03				06	04	01
04					02	00	04					16	02
05						01	05						02

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Fig. 19—Juncture Capacity Evaluation and Pattern Analysis (Sheet 2 of 5)

ESS	TOWN	STATE	TELCO	TELCO ORDER NO	BUILDING	TELCO BASE	DATE	RUN W.E.ORDER	ESS	PAGE	
								NO 2A	NO 2A	004	
JCTR ASGNS GEN SYS ISSUE 04 ** JCTR. CAPACITY EVALUATION AND PATTERN ANALYSIS**									***	SECTION 1	***

JUNCTOR GROUP SIZES WHEN SECTOR 1 REMOVED FROM SERVICE

CIRCUIT							WIRE						
LTN	00	01	02	03	04	05	LTN	00	01	02	03	04	05
---	---	---	---	---	---	---	---	---	---	---	---	---	---
00	01	02	02	02	02	01	00	05	06	09	09	02	01
01		02	03	02	02	00	01		04	06	09	04	02
02			02	02	01	01	02			04	06	05	01
03				01	02	01	03				05	02	01
04					01	00	04					12	02
05						01	05						02

JUNCTOR GROUP SIZES WHEN SECTOR 1 RESTORED TO SERVICE

CIRCUIT							WIRE						
LTN	00	01	02	03	04	05	LTN	00	01	02	03	04	05
---	---	---	---	---	---	---	---	---	---	---	---	---	---
00	02	03	03	03	02	01	00	06	07	11	11	04	03
01		02	03	03	03	01	01		06	09	11	05	03
02			02	03	02	02	02			06	08	06	01
03				02	02	01	03				06	04	02
04					02	00	04					13	06
05						02	05						04

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Fig. 19—Juncture Capacity Evaluation and Pattern Analysis (Sheet 3 of 5)

ESS TOWN STATE TELCO TELCO ORDER NO BUILDING TELCO BASE DATE RUN W.E.ORDER ESS PAGE
 NO 2A 005
 JCTR ASGNS GEN SYS ISSUE 04 ** JCTR. CAPACITY EVALUATION AND PATTERN ANALYSIS ** *** SECTION I ***

JUNCTOR GROUP SIZES WHEN SECTOR 2 REMOVED FROM SERVICE

CIRCUIT							WIRE						
LTN	00	01	02	03	04	05	LTN	00	01	02	03	04	05
00	02	02	03	02	01	01	00	04	05	07	08	04	03
01		02	02	02	02	01	01		04	07	08	04	03
02			01	03	02	02	02			05	05	04	01
03				01	02	01	03				05	03	02
04					01	00	04					09	06
05						02	05						04

JUNCTOR GROUP SIZES WHEN SECTOR 2 RESTORED TO SERVICE

CIRCUIT							WIRE						
LTN	00	01	02	03	04	05	LTN	00	01	02	03	04	05
00	02	03	03	03	02	02	00	06	07	10	09	05	04
01		02	03	03	03	02	01		06	08	09	06	04
02			02	03	02	03	02			06	08	06	02
03				02	02	01	03				06	06	04
04					02	01	04					10	07
05						02	05						07

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Fig. 19—Juncture Capacity Evaluation and Pattern Analysis (Sheet 4 of 5)

ESS	TOWN	STATE	TELCO	TELCO ORDER NO	BUILDING	TELCO BASE	DATE	RUN W.E. ORDER	ESS NO 2A	PAGE 006
JCTR ASGNS GEN SYS ISSUE 04 ** JCTR. CAPACITY EVALUATION AND PATTERN ANALYSIS **								*** SECTION I	***	

JUNCTOR GROUP SIZES WHEN SECTOR 3 REMOVED FROM SERVICE

CIRCUIT							WIRE					
LTN	00	01	02	03	04	05	LTN	01	02	03	04	05
---	---	---	---	---	---	---	---	---	---	---	---	---
00	02	03	02	02	01	02	00	04	04	07	06	05
01		01	02	03	02	02	01	05	05	05	06	04
02			01	02	02	03	02		05	06	05	02
03				02	01	01	03			04	06	04
04					02	01	04				04	07
05						02	05					07

JUNCTOR GROUP SIZES WHEN SECTOR 3 RESTORED TO SERVICE

CIRCUIT							WIRE						
LTN	00	01	02	03	04	05	LTN	00	01	02	03	04	05
---	---	---	---	---	---	---	---	---	---	---	---	---	---
00	02	03	03	03	02	03	00	06	07	08	07	07	05
01		02	03	03	02	03	01		06	07	07	08	05
02			02	03	02	03	02			06	03	07	04
03				02	02	02	03				06	08	05
04					02	02	04					06	08
05						02	05						10

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Fig. 19—Juncture Capacity Evaluation and Pattern Analysis (Sheet 5 of 5)

NEW CIRCUITS—NEW JNN, NEW SPN

3.04 These circuits were added as a result of growth and cannot be diagnosed until the sector on which they appear is removed from service in accordance with the procedures in Part 4. The JASINT program is then used to test these circuits. After a successful JASINT test, the circuits may be diagnosed using their new assignments.

4. JUNCTOR REASSIGNMENT PROCEDURES

4.01 A simplified flow chart of the junctor reassignment procedure is shown in Fig. 20.

4.02 The specific procedures for junctor reassignment are as follows:

(1) Perform a recent change update in accordance with Section 232-004-301 for No. 2A ESS and Section 232-304-301 for No. 2C ESS.

(2) Request the peripheral unit (PU) status list, network fabric out-of-service list, trunk service circuit status list by the following input messages:

M PU:SI!

M TK:SI!

M SV:SI!

Note: M SV:SI! message is not needed for LO-1, Issue 4.6 and later, EF-1, Issue 3.4 and later, and 2B-EF-1.

Clear any troubles indicated by these lists before proceeding. These include such items as bad access entries, bad address entries, scanner faults, controller troubles, and links out-of-service.

(3) Ensure that the four line ferros associated with the no test vertical TENs on added networks have been unstrapped (see SD-2H076 and SD-2H163).

(4) Load the new translations obtained from the ODA run in the program stores (PSs) using Section 232-124-301 for No. 2A ESS and Section 232-324-301 for No. 2C ESS.

(5) Inhibit all scheduled automatic progression and machine demand requests for circuit junctor tests by typing the following input message:

M JC:AT:0!

The OK response indicates that the request has been completed.

(6) Junctor diagnostics should be run (in addition to system evaluation prescribed by Section 232-125-501 for No. 2A ESS and Section 232-325-501 for No. 2C ESS) and successfully passed using the new translations before proceeding (see Part 3 for method of diagnosing circuit junctors). In addition, a reasonable "soak" period for the new translations should be successfully completed before proceeding.

(7) **Applies only to No. 2A ESS:** Obtain 8 A-type and 4 B-type spare memory cards for use in updating the RC area of CS to reflect the status of the Junctor Subgroup Flag Table after each sector is restored (see Step 20). The cards from the spare memory module for generic program patches may be used for this purpose.

Note: If service orders exist in the RC area at the time of update, more cards than previously specified will be required.

(8) Attach cable tie tags to plugs in sector x which will be replugged.

(9) Clear any repeat tests which may be in progress by typing TTY input message:

For No. 2A ESS offices:

Type in:

M SY:CLR!

For No. 2C ESS offices:

Type in:

CLR:RPT:STEP!

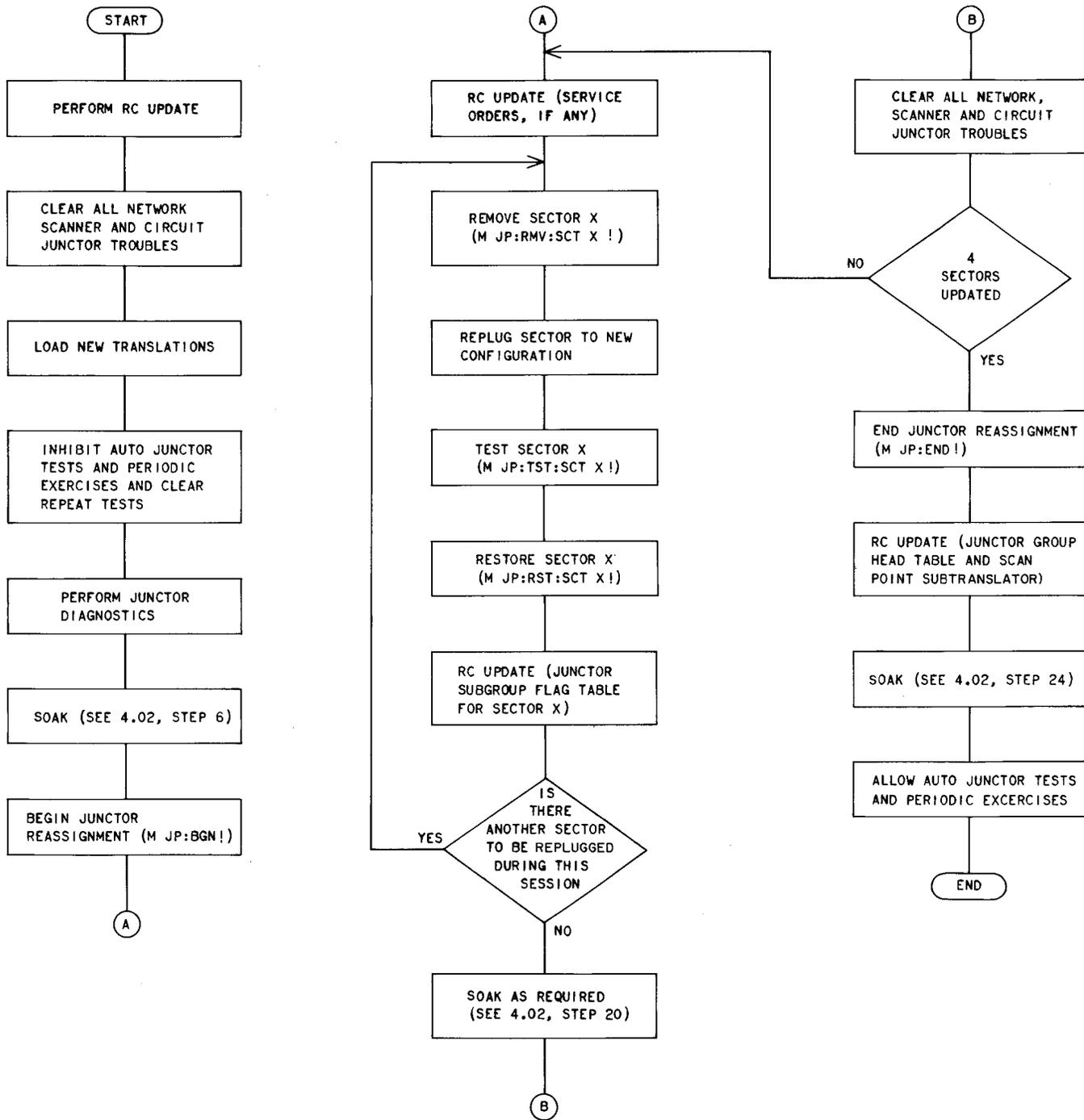


Fig. 20—Flow Chart of Junctor Reassignment Procedure

(10) Type the following TTY input messages to not allow the automatic long term periodic exercises.

For No. 2A ESS offices:
Type in:

M CU:NLW:13! (Inhibit CU exercises)
M CU:NLW:14! (Inhibit PU exercises)

For No. 2C ESS office:
Type in:

INH:MSF 12! (Inhibit CU exercises)
INH:MSF 13! (Inhibit PU exercises)

(11) Initialize the program to begin the junctor reassignment procedure by typing the following TTY input message:

M JP:BGN!

Note: This message initializes the control area for the junctor reassignment (JASINT) program. Part of this initialization is that the progression is automatically put in the forward mode (see Part 7).

(12) To simplify recovery in case of machine problems, it is strongly recommended that:

- An RC update be performed before each sector is removed from service. For No. 2C ESS, use the tape copy procedure in Section 232-309-305 to generate one backup cartridge. Label the cartridge appropriately and save for possible use in the Backing-Up Procedure. For No. 2A ESS all memory cards must be saved which are removed from the machine during the junctor reassignment procedure.
- Service order activity should be strictly limited to a minimum during the entire junctor reassignment period to minimize the number of customers that would be affected in the case of machine problems which would require backing up (see Part 6).

(13) Remove sector x from service by typing the following input message:

M JP:RMV:SCT x!

x = Sector number to be removed from service (0-3).

Note: Only one sector should be removed, tested and restored at a time before proceeding to the next sector.

The RMV message makes an RC entry in CS to update the Junctor Subgroup Flag Table and is effective immediately upon completion of the remove function. Strictly speaking the M JP RMV message does not remove any junctors from service. Instead, the RC entry for the Junctor Subgroup Flag Table serves to deny call processing access to the junctors on sector x. As soon as all the *in service* junctors in sector x become service idle the following output message will be printed:

MR JP SCT x IDL

Note: If, after five minutes, sector x has not become service idle, the following input message may be typed requesting a list of service busy junctors.

M JP:LST:SCT x!

A printout will follow indicating the service busy junctors.

MR JP LST a bb cde ff ghi

a = 0 for wire junctor or 1 for circuit junctor
bb = Network (LTN) A number (0-14)
cde = Switch, level, grid of network A in octal
ff = Network (LTN) B number (0-14)
ghi = Switch, level, grid of network B in octal.

(14) After receiving the verification that all junctors are idle, remove only the plugs in sector x which will be replugged and straighten out the cables.

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(15) Replug sector x following Section E (see example, Fig. 15) of the junctor assignment output forms.

Note: When a sector plug-up is finished, no plugs will be left unplugged in that sector. This condition can be used as a partial check of the accuracy of the job.

(16) Request a test of all junctors (wire and circuit) located on CDF sector x by typing the following input message:

M JP:TST:SCT x!

Two tests are performed as follows:

- A dc continuity test on all wire and circuit junctors.
- A circuit junctor diagnostic test on all circuit junctors.

The failing junctors will be removed from service.

(17) The system will begin testing the junctors in sector x. One or more of the following output messages will be printed indicating the status of the tests:

MR JP TST ATP
MR JP TST tuvy a bb cde ff ghi
MR JP TST REJ
MR JP TST END
MR JC ATP
MR JC END

Note: Refer to the output message manual (OM-2H200) for the explanation of the message and variable fields for each message.

(18) The output message:

MR JP TST ATP

only indicates that junctors in sector x have been tested, with a TTY message:

MR JP TST tuvy a bb cde ff ghi

being generated for each junctor that failed the dc tests. See Table B for guidelines on trouble locating.

Caution: *In no event should a sector be restored if an entire junctor subgroup is marked out of service. A subgroup marked out of service greatly reduces the call carrying capabilities for the two networks involved.*

TABLE B

GUIDELINES FOR TROUBLE LOCATING

There are several conditions which may develop as a result of the junctor tests. The following listing of conditions and the actions to be taken may be helpful as a guideline for locating troubles.	
CONDITION	ACTION
(a) A multitude of junctor failures occur that cannot be corrected using the new junctor reassignment interconnection sheet, Section E (see example, Fig. 15).	This may indicate faulty translation data or incorrect Section E. An earnest attempt should be made to ensure that the translation data is really at fault. Once this is established the maintenance personnel should use the procedure in Part 6 to revert back to the original configuration. If the trouble is hardware oriented, repair if possible and proceed to 5.01(b).
(b) One or more subgroup failures.	Make sure that the connections involved are seated properly, and that the plug-jack arrangement on the JGF sector is correct. If several subgroups fail, tear down the new connections, replug the old connections (use procedures in part 6 to revert back), and try to locate the trouble. If the subgroups fail in pairs, there is probable a plug-jack connection error. Resubmit the test using TTY input message MP JP:TST:SCT x!
(c) A few junctor failures in one or two subgroups.	Individual junctor continuity can be checked with a volt-ohm-milliammeter. For circuit junctor failure, the cause can be determined by looking up the trouble number in the TLM. If the output indicates that the network controller FST points are not normal, perform a network diagnostic test by typing the following TTY input message: M NW:DGN:fg hi jklm!
(d) Output message printed indicating that the JGF sector has been tested, but the continuity tests for one or more of the juncctors have not been performed due to the fact that no idle network paths, test verticals, or line terminals could be found to test the juncctors. The output message will be: MR JP TST END	Resubmit the test on the specific sector using TTY input message MP JP:TST:SCT x!
(e) A circuit junctor passes the dc continuity test but fails the junctor diagnostic test.	The associated diagnostic-type printout should be used to locate the fault. After failing juncctors have been repaired, submit the test request again. <i>Note:</i> A diagnostic test can be requested on any failing circuit junctor via the normal test by typing the following TTY input message: M JC:DGN:mmnn slg!

(19) If all junctors passed the tests, restore sector x by typing the following TTY input message:

M JP:RST:SCT x!

This message makes an RC entry in CS to update the Junctor Subgroup Flag Table and is effective immediately upon completion of the restore function. As a result call processing is now allowed by select junctors on sector x (see Part 7).

Note: Junctors that failed tests in Step 16 will be left out of service.

(20) Update the RC area of CS to reflect the current status of the Junctor Subgroup Flag Table (see JTRSUB in PA-2H200) for the sector just restored. Follow the procedures in Section 232-004-301 to update the RC area of CS for No. 2A ESS or Section 232-304-301 to update the RC area of main store for No. 2C ESS. For No. 2C ESS, omit this step after restoring sector 3 only.

Note: For No. 2A ESS always use spare memory cards for the RC update (see Step 7). All cards which are removed should be saved and marked with the number of the sector which has just been restored to service. These cards (saved) will aid in the Backing Up Procedure, should it become necessary (see Part 6). As a reminder, the newly written cards contain the modifications described above to JTRSUB, as well as any service orders currently in the machine.

Note: For No. 2C ESS, use the tape copy procedure in Section 232-309-305 to generate one backup cartridge. This cartridge should be saved and labeled with the number of the sector which has just been restored to service. This cartridge (saved) will be required in the Backing-Up Procedure, should it become necessary (see Part 6). As a reminder, the TRNSLN file of this tape cartridge contains the modifications described above to JTRSUB as well as any service orders currently in the machine.

(21) If more than one sector is to be reconfigured on the first day of junctor reassignment,

repeat Steps 13 through 20 for each sector involved. A good practice is to reconfigure as few sectors as practical on the first day (see 2.07 through 2.09).

Note 1: A "soak" period should follow the first day's junctor reassignment. During this soak period perform any required network rebalancing (see DFMP Division H, Section 10t2).

Note 2: If any problems are encountered during the soak period proceed to Part 6.

(22) After the soak period, reconfigure the remaining sectors over as many days as needed (see DFMP Division H, Section 10t2). Start by clearing the status lists per Step (2) and repeat Steps 12 through 20 for each sector to be reconfigured.

Note: If any problems are encountered proceed to Part 6.

(23) After all four sectors have been updated type the following TTY input message:

M JP:END!

This message will automatically zero the "Reassignment in Progress" flags in the Junctor Group Head Table and to change the "Subtranslator Code (STC)" for junctor circuits in the Scan Point Translator.

Caution: *This data is placed in the RC area of CS and is not effective until the cards are magnetized in Step 24.*

The system will respond with one of two printouts as follows:

- MR JP RC RDY: This printout indicates that the RC area has been written as described by the M JP:END! input message and is ready to be updated.
- MR JP END REJ: This printout indicates that there was not enough space in the RC area. A recent change update must be performed and then the M JP END! request must be resubmitted.

(24) Update the RC area of CS using the procedure given in Section 232-004-301 for No. 2A ESS or update RC area of main store using procedure in Section 232-304-301 for No. 2C ESS. The cards removed from the No. 2A ESS machine in this step should be marked and saved.

(25) After the update is performed (Step 24) a "soak" period is suggested to verify that changes in the "Reassignment in Progress" flags and STC codes (see Step 23) results in a translation configuration that is consistent with the new junctor reassignment. If consistency of the translation configuration and the junctor reassignment does not exist, it will be necessary to reinsert the memory cards (saved in Step 24) into the No. 2A ESS machine (see Section 232-004-301, for translation data recovery) or perform a backdate bootstrap procedure in the No. 2C ESS office (see Section 232-304-301). If the translation data recovery does not clear the machine problems and these problems appear to be **related** to the junctor reassignment, follow the procedure for "backing up" (see Part 6).

(26) Allow the automatic junctor testing and automatic long term periodic exercises by typing TTY input messages:

For No. 2A ESS office:
Type in:

M JC:AT:1!
M CU:RNL:13!
M CU RNL:14!

For No. 2C ESS offices:
Type in:

M JC:AT:1!
ALW:MSF 12!
ALW:MSF 13!

This completes the junctor reassignment procedure.

5. TROUBLE RECOVERY

5.01 The personnel responsible for the junctor reassignment should be aware of the use of certain priority messages which will be useful if troubles are encountered during the reassignment procedure.

(a) If a RECENT CHANGE or STABLE initialization must be performed for any reason during this procedure, type TTY input message

MP JP:RMV:SCT x!

x = sector being updated (0-3).

Note: This message should be inputted immediately after the initialization procedure. If the machine will not accept the message on the first try, repeat the message as soon as the machine starts to return to normal.

An initialization of RECENT CHANGE type will clear the Junctor Subgroup Flag Table and this input message is necessary to establish the reassignment at a known starting point by writing the proper information into the flag table.

(b) If troubles were encountered during the first test of sector and the test was not completed, clear the troubles and retest the sector by typing TTY input message:

MP JP:TST:SCT x!

x = sector to be tested (0-3)

If the second test is unsuccessful and the decision is made to back up, proceed to Part 6.

6. REVERTING (BACKING UP) PROCEDURE

6.01 If trouble is encountered and it becomes necessary to revert to the original junctor configuration on one or more sectors for any reason, use the following procedure.

Note: Steps 1 through 4 should be attempted first. If any or all of Steps 1 through 4 are unsuccessful, it may become necessary to proceed with Steps 5 through 8.

(1) Type the following TTY input message:

M JP:SEQ:BWD!

This message will allow the junctor reassignment to be performed in the reverse order (starting with the sector presently being updated and proceeding back to sector 0).

(2) Remove all trunks and service circuits on the new networks from service that were reassigned as a result of rebalancing the networks.

(3) Reassign any lines on the new networks to their original networks.

(4) Reconfigure junctors on a sector basis to the original configuration using the procedures in 4.02, Steps 12 through 20. Repeat Steps 12 through 20 until all sectors have been replugged to their original configuration or until a working configuration has been obtained. Nothing can be done at this point until the fault in the translation data can be determined. Since this may take some time be sure to allow long term periodic exercises by typing:

For No. 2A ESS offices:
Type in:

M CU:RNL:13!
M CU:RNL:14!

For No. 2C ESS offices:
Type in:

ALW:MSF 12!
ALW:MSF 13!

The new translation data can be left in the system including the junctor reassignment flags. When the problem has been resolved, the maintenance personnel can later go back to the forward progression mode by typing the following TTY input messages:

For No. 2A ESS offices:
Type in:

M CU:NLW:13!
M CU:NLW:14!
M JP:SEQ:FWD!

For No. 2C ESS offices:
Type in:

INH:MSF 12!
INH:MSF 13!
M JP:SEQ:FWD!

Note: All junctors must be service idle before the M JP:SEQ message will be accepted. Junctors are service idle as a result of input messages.

M JP:RMV:SCT x!

and

M JP:TST:SCT x!



If any or all of Steps 1 through 4 cannot be completed due to machine problems, it may be necessary, as a last resort, to replace the memory cards for No. 2A ESS (or load the backup tape cartridge for No. 2C ESS) saved in Step 20 of 4.02. The cards (or tape) must be reinserted in reverse order, one sector at a time. If the decision is made to replace the memory cards (or tape) proceed with Steps 5 through 8.

(5) Attempt to deny access to the most current sector being updated by typing TTY input message:

MP JP:RMV:SCT x!

x = sector number (0-3)

Note: Proceed immediately to Step 6 even if this message is not accepted.

(6) Replug the sector specified in Step 5 to the original configuration.

(7) For No. 2A ESS offices:

Replace the original translation memory cards for the sector specified in Step 5 (see Section 232-004-301 for translation data recovery procedures).

For No. 2C ESS offices:

Replace the original translation memory data for the sector specified in Step 5. This is accomplished by performing a RECENT CHANGE initialization, replacing the current tape cartridges with the appropriate backup tape (either TDC), and performing the Recovery From Backdate Procedure-Method A (tape to store) in Section 232-304-301.

The specified RECENT CHANGE initialization will ensure that the junctors denied access to Step 5 are now allowed access as they were prior to reassignment for this sector, and also because new translations can never be put into a system with data in the recent change area.

- (8) Repeat Steps 5 through 7 for the remaining sectors until all junctors have been replugged to their original configuration or until a working configuration has been obtained. Nothing can be done at this point until the fault in the translation data can be determined. Since this may take some time be sure to allow long term periodic exercises by typing:

For No. 2A ESS offices:
Type in:

M CU:RNL:13!
M CU:RNL:14!

For No. 2C ESS offices:
Type in:

ALW:MSF 12!
ALW:MSF 13!

The new translation data can be left in the system including the junctor reassignment flags. When the problem has been resolved the maintenance personnel can later go back to the forward progression mode by typing the following TTY input messages:

For No. 2A ESS offices:
Type in:

M CU:NLW:13!
M CU:NLW:14!
M JP:SEQ:FWD!

For No. 2C ESS offices:
Type in:

INH:MSF 12!
INH:MSF 13!
M JP:SEQ:FWD!

Note: All junctors must be service idle before the M JP:SEQ message will be accepted. Junctors are service idle as a result of input messages:

M JP:RMV:SCT x!
M JP:TST:SCT x!

7. EFFECTS OF SEQUENCE MESSAGES ON REMOVE AND RESTORE MESSAGES

7.01 The following information is provided to explain the effects of the sequence messages on the remove and restore messages for each sector.

- (a) The purpose of TTY input message

M JP:SEQ:FWD!

is to change the progression of the junctor reassignment to proceed in the forward direction from the current sector to sector 3. This message remains in effect until the backward message [see(b)] is typed in or until the junctor reassignment procedure is ended. The FWD message affects the remove, test, and restore messages for each sector as follows:

- (1) TTY input message

M JP:RMV:SCT x!

will deny call processing access to all junctors on sector x.

- (2) TTY input message

M JP:TST:SCT x!

will test the **new** junctor configuration.

- (3) TTY input message

M JP:RST:SCT x!

allows call processing access to junctors on sector x using the assignments for the **new** junctor configurations.

(b) The purpose of TTY input message

M JP:SEQ:BWD!

is to allow the progression of the junctor reassignment to proceed in the reverse direction, from the current sector to sector 0. The BWD message remains in effect until the forward message [see (a)] is typed in. This message affects the remove, test, and restore for each sector as follows:

(1) TTY input message

M JP:RMV:SCT x!

will deny call processing access to all junctors in sector x.

(2) TTY input message

M JP:TST:SCT x!

will test the configuration for sector x **prior** to reassignment.

(3) TTY input message

M JP:RST:SCT x!

will allow call processing access to the junctors using the assignments for sector x **prior to reassignment**.

8. WRONG SECTOR SPECIFIED ON A PRIORITY INPUT MESSAGE (MP JP_)

8.01 In the event the wrong sector number was specified on one of the following priority (P) input messages, it is imperative that the error be corrected immediately.

MP JP:RMV:SCT y!
MP JP:TST:SCT y!
MP JP:RST:SCT y!

8.02 If sector x (instead of sector y) was intended, the error can be corrected by typing the following TTY input messages.

For No. 2A ESS offices:
Type in:

M CU:NLW:9!
MP JP:RMV:SCT x!

where x is the correct sector number.

For No. 2C ESS offices:
Type in:

INH:MSF 5!
MP JP:RMV:SCT x!

x = the correct sector number.

Note: The M CU:NLW:9! for No. 2 ESS or INH:MSF 5! for No. 2C ESS message is only required if the MP JP:TST:SCT x! message was specified. The M CU:NLW:9! for No. 2A ESS or INH:MSF 5! for No. 2C ESS message will abort the junctor reassignment test that is in progress.

After the abort message is printed—

For No. 2A ESS offices:
Type in:

M CU:RNL:9!

For No. 2C ESS offices:
Type in:

ALW:MSF 5!

This will allow the multiscan function for junctor reassignment. At this point the reassignment may proceed normally.

9. HOW TO ABORT THE JUNCTOR REASSIGNMENT TEST

9.01 If for some reason, it is desired to abort the test specified by M(P) JP TST SCT X, type in the following TTY input message:

For No. 2A ESS offices:
Type in:

M CU:NLW:9!

For No. 2C ESS offices:
Type in:

INH:MSF 5!

After the abort message is printed—

For No. 2A ESS offices:
Type in:

M CU:RNL:9!

For No. 2C ESS offices:
Type in:

ALW:MSF 5!

The junctor reassignment test is a multiscan function TTY request of on-line peripheral unit diagnostics and will be aborted by the preceding messages.